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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,464	09/05/2003	Glen S. Axelrod	TFH047	8440
32047 7590 05/20/2010 GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERCIAL STREET MANCHESTER, NH 03101				
EXAMINER				
COLE, ELIZABETH M				
ART UNIT		PAPER NUMBER		
1782				
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05/20/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/656,464

Applicant(s)

AXELROD, GLEN S.

Examiner

Elizabeth M. Cole

Art Unit

1782

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,9,12-14,19,20 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,9,12-14,19-20,22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 9, 12-14, 19-20, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jordan, U.S. Patent No. 5,226,384, in view of Sullivan, U.S. Patent No. 5,087,499 and Lin et al, U.S. Patent No. 5,354,605 and Wellington Sears Handbook of Industrial Textiles, by Sabit Adanur, page 60. Jordan discloses a pet bed having a resilient and compressible core such as cotton batting, foam, or foam pieces, (col 2, lines 6-9, and lines 36 – col. 3, line 17), and a fabric cover, (col. 2, lines 1-6). Jordan teaches that the fabric cover can comprise a first layer of aramid fabric made from short, (i.e., staple), aramid fibers. Jordan teaches that the aramid fabric layer can be a felt, (i.e., a nonwoven fabric). Jordan teaches that the second layer can comprise a polyester fabric layer and that the pet bed can further comprise an additional soft fabric cover, such as pillowcase type fabric. See col. 4, lines 19-60; col. 5, lines 38-46. Jordan teaches that the purpose of providing the aramid fabric layer is to reinforce the bed against chewing, biting scratching and other damage from the pet and thus protect both the bed and the animal from being harmed. See col. 5, lines 56-17. Jordan thus teaches employing the aramid fiber layer to selectively reinforce those areas of the bed which will be prone to being bitten or chewed. Jordan envisions that this would be to cover the entire bed. The claims as written do not require that only part of the article be

covered, but that the fabric be selectively disposed. Jordan teaches employing high strength fibers but does not teach blending the fibers with other fibers. Sullivan teaches that is known in the art to blend high strength fibers with other fibers, such as cotton, silk, nylon, polyolefins, etc. See col. 3, lines 56-64. Therefore, it would have been obvious to have blended the high strength fibers of Jordan with other fibers as taught by Sullivan, in order to form yarns which had additional properties such as enhanced softness, absorbency, hydrophobicity, etc., depending on what the final properties desired in the fabric were. For example, silk and cotton fibers would have been known in the art to provide enhanced softness and absorbency to a fabric relative to using all aramid yarns. Polyolefin yarns would produce a more hydrophobic fabric. Also, considerations of economy would tend toward blending the fibers in order to arrive at a fabric having the desired properties at an economical cost. Jordan teaches employing multiple layers of high strength fibers for use in forming articles for use by pets. Jordan does not teach orienting the layers so that they have different axes of orientation relative to each other. Lin et al teaches that in forming nonwoven fabrics that such fabrics can be formed to comprise multiple layers wherein each layer has an axis of orientation which is an angle to another layer's axis of orientation. See col. 12, lines 19-44. Lin teaches that the fibers of each of the layers may be staple fibers, including high strength fibers. See col. 2, lines 20-35. The staple fibers are formed into layers of fiber arrays which are oriented relative to each other to form a form a high strength fabric. See col. 8, lines 29-55. Therefore, it would have been obvious to have provided more than one nonwoven layer in Jordan and to have oriented the layers so that they

had a different axis of orientation relative to each other as taught by Lin, in order to produce a stronger fabric.

3. With regard to the claims as amended, which recite that the high performance fibers have a monoaxial orientation of greater than 50%, as shown by "Industrial Textiles", it is well known and conventional to draw and thus orient polymeric fibers in order to increase their strength. Therefore, it would have been obvious to have drawn and oriented the high performance polymeric fibers of Jordan in order to further increase their strength. With regard to the degree of orientation, since the degree of orientation is directly related to the strength of the fiber in the direction of orientation, it would have been obvious to have optimized the orientation in order to have produced a very strong fiber. With regard to the limitation that "while still reducing tearing and puncture when chewed by an animal", since Jordan teaches incorporating high strength fibers in to items which are used by animals, it would be expected that the use of higher strength fibers would result in reduced tearing and puncturing as compared to items without the high strength fibers, since the fibers are known in the art to be resistant to tearing and puncturing.

4. Applicant's arguments filed 2/16/10 have been fully considered but they are not persuasive.

5. Applicant argues that Denesuk does not teach selectively employing the high strength fibers selective positioned at locations prone to chewing or biting. In view of Applicant's amendments to the claims, Denesuk is no longer used in the art rejection.

6. However, Jordan clearly teaches that the purpose of using the high strength fabric layer is to reinforce items which are prone to chewing or biting by pets, so that the material is stronger and the pets are not at risk of swallowing the material they chew and becoming ill. Therefore, Jordan does teach employing the high strength fabric layer to selectively reinforce areas which are prone to chewing or biting by pets. See, for example, the abstract as well as col. 1, lines 56-63; col. 4, lines 19-46; col. 5, line 56 - col. 6, line 18. In the case of Jordan, the entire pet bed is considered to be prone to being chewed or bitten by the pet and therefore Jordan selectively applies the aramid fiber layer to the entire pet bed. The claims as currently amended do not require that the first and second fabric layers are discontinuous.

7. Applicant argues that Jordan does not teach multiple layers of the aramid fibers. However, Lin et al teaches that in forming nonwoven fabrics that such fabrics can be formed to comprise multiple layers wherein each layer has an axis of orientation which is an angle to another layer's axis of orientation. See col. 12, lines 19-44. Lin teaches that the fibers of each of the layers may be staple fibers, including high strength fibers. See col. 2, lines 20-35. The staple fibers are formed into layers of fiber arrays which are oriented relative to each other to form a high strength fabric. See col. 8, lines 29-55. Therefore, it would have been obvious to have employed multiple layers of oriented nonwoven layers in the structure of Jordan and to have disposed them that they had a different axis of orientation relative to each other as taught by Lin, in order to produce a stronger fabric.

8. Applicant argues that none of the art teaches discontinuous staple fibers.

Initially, it is noted that staple fibers are by definition discontinuous fibers. Jordan teaches employing short fibers of aramid fibers which can be formed into a felt. Short fibers would be understood by one of ordinary skill in the art to refer to staple fibers.

9. However, Applicant argues that Sullivan does not teach blending or interweaving because in the example using Kevlar that the Kevlar fibers are wrapped around a continuous yarn. However, the disclosure of Sullivan is not limited to the examples but clearly teaches spinning combinations of staple fibers into yarns wherein the staple fibers can be what Applicant calls high performance fibers with other non high performance fibers. Applicant also argues that Sullivan teaches that all of the fibers should be puncture resistant and that therefore Sullivan does not teach a blend of non high performance and high performance fibers. However, all fibers will have some degree of penetration of puncture resistance. The person of skill in the art would recognize that an aramid fiber fabric would have greater penetration resistance than a silk fiber fabric. However, the person of ordinary skill in the art would also recognize that silk fibers would impart other properties to a fabric comprising the fibers, for example, softness, drape, ability to be readily dyed, (aramid fibers are notoriously difficult to dye). Sullivan clearly teaches that blends of fibers can be used, although Sullivan employs different terms than Applicant. Applicant defines high performance fibers as those which have particular tensile strength or modulus. Employing Applicant's definition, the polyaramids of Sullivan would be considered to be high performance fibers while the other fibers such as cotton or silk would not. Further, the

person of ordinary skill would immediately know that polyaramid fibers such as KEVLAR fibers are much stronger than cotton or silk fibers. Further, the examples of Sullivan teach forming combinations of polyaramid and other conventional or non-high performance fibers. Finally, Sullivan employs the terminology of "puncture resistant". Any fiber would have at least some resistance to puncturing.

10. Applicant argues that Sullivan does not teach a nonwoven fabric comprising a blend of high performance and non-high performance fibers. However, Sullivan does teach forming staple length yarns from blends of what Applicant describes as high performance and non-high performance fibers. Therefore, it would have been obvious to have formed the fibers into nonwoven fabrics, since Jordan already teaches nonwoven fabrics, (felts), formed from short, (staple) aramid fibers alone.

11. Applicant argues that Jordan does not teach employing multiple layers of high strength fibers for use in forming articles by pets. However, Jordan teaches at least one aramid sheet and thus implicitly teaches more than one sheet. Further, Lin teaches a benefit wherein multiple layers of a nonwoven fabric are used wherein each layer has fibers which are oriented in a single direction and wherein different layers are arrayed at angles to each other in order to form a stronger material. Therefore, the person of ordinary skill in the art would have employed more than one layer of uniaxially aligned nonwoven fibers wherein different layers are aligned in different directions, in order to arrive at a laminate having optimum strength in different directions.

12. Applicant argues that Lin does not disclose a blend of high performance and non-high performance fibers. However, this feature is already taught by Sullivan. Lin is

relied on for the teaching of providing non woven fibers in different layers wherein the fibers are aligned in one direction in each layer and wherein the different layers are oriented at different angles relative to each other in order to produce a laminate having high strength in different directions.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

The examiner's supervisor Rena Dye may be reached at (571) 272-3186.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.

/Elizabeth M. Cole/
Primary Examiner, Art Unit 1782

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